

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002763**Date Inspected:** 28-May-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

Production Monitoring Test 1

The Quality Assurance Inspector monitored the Production Monitoring Tests (PMT) and production welding for the OBG Deck Panels U-rib welding. The weld joint is a single bevel Partial Joint Penetration (PJP) weld that joins the U-rib to the deck plate. The Production Monitoring Test (PMT) is performed prior to the production of the Deck Panels (DP). PMT #1 consists of (3) ribs totaling (6) weld joints, numbered 1 thru 6. Welding was performed on

Gantry 2, and represents production for Deck Panels DP-563-001 and DP-588-001. Welding was performed in accordance with welding procedure specification WPS-B-T-2342 (Dual Process GMAW root pass SAW fill and cover pass). The parameters and welders were recorded in an on site log for future review.

ZPMC Quality Control performed visual inspection of the GMAW weld pass and the subsequent SAW weld pass. ZPMC QC rejected the PMT due to lack of fusion for approximately 75 millimeters at weld 6.

Production Monitoring Test 2

The Quality Assurance Inspector monitored the Production Monitoring Tests (PMT) and production welding for the OBG Deck Panels U-rib welding. The weld joint is a single bevel Partial Joint Penetration (PJP) weld that joins the U-rib to the deck plate. The Production Monitoring Test (PMT) is performed prior to the production of

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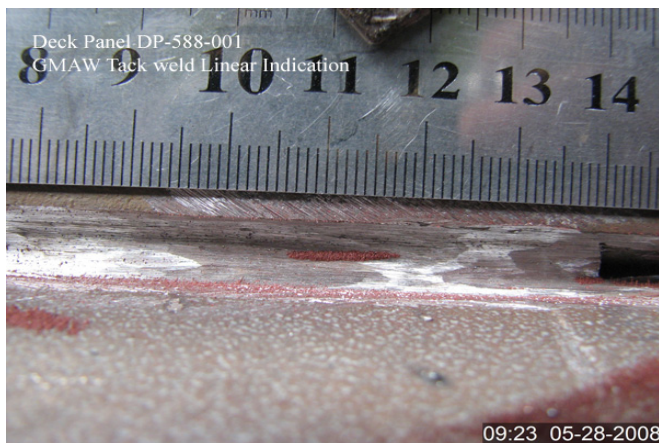
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ZPMC Quality Control performed visual inspection of the GMAW weld pass and the subsequent SAW weld pass. ZPMC QC accepted the PMT even though ZPMC performed a weld repair to the GMAW root pass due to clustered porosity. ABF representative Kit Man Li accepted the PMT. The Quality Assurance Inspector informed Quality Control that repair welding of the PMT is not in accordance with the special provisions. The Quality Assurance Inspector found the PMT to be noncompliant due to the discrepancy.

ZPMC chose to not perform any production welding due to the fact that the special provisions require 2 PMT's to be welded once the first is found to be noncompliant.

The Quality Assurance Inspector performed magnetic particle inspection to the tack welds on weld 8 of Deck Panel DP-588-001. Weld 8 contains 21 tack welds. Of the 21 tack welds, 12 appeared to contain linear indications indicative of cracks. In addition, The Quality Assurance Inspector performed magnetic particle inspection to the tack welds on weld 10 of Deck Panel DP-563-001. Weld 10 contains 21 tack welds. Of the 21 tack welds, 11 appeared to contain linear indications indicative of cracks. ABF representative Warren Buehler was notified by the Quality Assurance Inspector. Mr. Buehler stated that ABF has recommended that all the tack welds be magnetic particle tested. At completion of the Quality Assurance Inspectors shift ZPMC had begun repairing the indications by grinding and retesting by the magnetic particle testing method. Below is a digital photograph of a cracked GMAW tack weld located by the magnetic particle testing method.



Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowry (916) 227-5719, who represents the Office of Structural Materials for your project.

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Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
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Reviewed By:	Cuellar,Robert	QA Reviewer
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